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Born on January 2nd, 1980
Belgian citizen, Married

- RESEARCH INTERESTS ◇ Exoplanet detection and characterization, circumstellar disks, astrobiology.
◇ Coronagraphy, nulling interferometry, optical/infrared stellar interferometry.
◇ Adaptive optics for ground and space-based telescopes.
◇ Micro/nano-optics, diffractive optics, advanced surfacing technologies.
- EXPERIENCE ◇ **NASA postdoc** at Jet Propulsion Laboratory - California Institute of Technology, in Origins of Stars and Planets group (Supervisor: Dr. J. Trauger) with Dr. G. Serabyn (October 2007 - present).
· *Invention and development of the Optical Vectorial Vortex Coronagraph*
· *Laboratory demonstration of the Optical Vectorial Vortex Coronagraph in the near-infrared (Dr. Serabyn's nulling lab) and visible (High Contrast Imaging Testbed)*
· *Near-infrared coronagraphic bench upgrades (implementation of a super-continuum white light source, reflective configuration, polarimetric experiment, ...)*
· *Implementation of a new phase-mask coronagraph at Palomar*
· *Extreme adaptive optics observations of brown dwarfs and disks at Palomar*
· *Design, manufacturing and implementation of a new grism for Palomar*
· *Transit spectroscopy using the new grism at Palomar*
· *Nulling interferometry experiment at Palomar (fiber nuller).*
◇ **Postdoc position** at “Institut d’Astrophysique et de Géophysique de Liège”, under ESA contract, with the Centre Spatial de Liège (CSL), University of Liège (October 2006 - September 2007).
◇ **FRIA Research Fellow** with the Belgian National Fund for Scientific Research, advisor: Prof. J. Surdej, University of Liège (October 2002 – September 2006).
◇ **Marie Curie Fellowship** of the European Commission with Prof. P. Léna and Dr. Daniel Rouan, Observatoire de Paris-Meudon (October 2002 – April 2003).
◇ **Marie Curie Fellowship** of the European Commission with Prof. P. Léna and Dr. A. Léger, Institut d’Astrophysique Spatiale d’Orsay (September 2003 – April 2004).
◇ **Teaching assistant** at University of Liège for student trainings in astrophysical observations at Observatoire de Haute-Provence (2003 – 2007).
◇ **Referee** of several papers in international optical reviews (Opt. Lett., Opt. Expr., etc.).
◇ **Public outreach:** education (Science promotion, Planetarium), public conferences, etc.
- SKILLS ◇ Optical Vectorial Vortex Coronagraph inventor and expert.
◇ Specialist and inventors of original achromatic phase shifting techniques.
◇ Coronagraphic system design, modeling, and optical testing.
◇ Adaptive Optics observation, data reduction, and modeling.
◇ Diffractive Optical Element modeling (3D full-vector rigorous diffraction analysis).
◇ Wavefront control, electric-field conjugation.

- ◊ Unix/Linux, Dos/MS-Windows, MATLAB, Mathematica, IDL, Labview, ZEMAX, CODE V, Pascal-FORTRAN-C, LATEX.
 - ◊ speak/write English and French.
- EDUCATION**
- ◊ **Ph.D. in Science**, orientation Astrophysics, University of Liège, September 2006.
Thesis: *Subwavelength gratings for extrasolar planetary system detection and characterization.*
 - ◊ **M.Phil. in Science**, orientation Astrophysics, University of Liège, June 2004.
Thesis: *Applications des réseaux sub-lambda en interférométrie et coronographie.*
 - ◊ **Diploma in Physical Engineering**, University of Liège, September 2002.
Thesis: *Etude d'un coronographe à 4 quadrants au moyen de l'optique diffractive.*
 - ◊ **Thematic schools attended**
 - *9th Annual Summer School on Adaptive Optics*, University of California, Santa Cruz, August 4-8, 2008.
 - *Detection and characterization of exoplanets, observational challenges for the next decade*, Observatoire de Genève, Geneva (Switzerland), June 28-30, 2006.
 - *Chronologie de la formation du Système Solaire – II. Des grains présolaires aux objets de Kuiper.*, C.N.R.S. permanent formation, Aussois (France), February 2-6, 2004.
 - *NATO advanced study institute on “Optics in Astrophysics”*, Cargèse, Corsica (France), September 16-27, 2002.
 - *Journées d’Imagerie à Très Haute Dynamique et détection d’exoplanètes*, Nice (France), May 13-16, 2002.
- AWARDS**
- ◊ J. Genard Award of the Astrophysics Department at University of Liège for the diploma thesis: *Etude d'un coronographe à 4 quadrants au moyen de l'optique diffractive*, September 2002.
 - ◊ Bourse Pisart (merit-based scholarship awarded every year to engineering students at the University of Liège), Fall 2001.
- INVITED TALKS**
- ◊ *Developing phase-mask coronagraphy at JPL, NExScI Exoplanet talk series*, Caltech, Pasadena, February 2009.
 - ◊ *Phase-Mask Coronagraphy: Scientific Results and Perspectives*, Center for Exoplanet Science Colloquium Series, Pasadena, May 2008.
 - ◊ *Annular Groove Phase-Mask coronagraph for differential polarimetric imaging*, Seminar at UCL, London, May 2007.
 - ◊ *Les vortex optiques à base de réseaux sublambda*, Seminar at LAOG, Grenoble, France, April 2007.
 - ◊ *Invited lecturer for the course "Architectures optiques du futur"* at the Saint-Etienne SupOptique antenna, Saint-Etienne, France, March 2007.
 - ◊ *Observational astrophysics and the search for life around other stars*, invited talk at the Astrobiology and Habitability workshop, SCKCEN Brussels, June 2006.
 - ◊ *Perspectives for next generation ground- and spaced-based interferometers*, plenary talk at *Distant Worlds*, JENAM annual meeting, Liège, July 2005.
 - ◊ *Ocean Planets: heaven or hell ?*, invited talk at *Distant Worlds*, JENAM annual meeting, Liège, July 2005.
 - ◊ *Diamond subwavelength gratings for an achromatic four-quadrant phase-mask coronagraph*, Seminar at the technology department of Uppsala University, Sweden, February 2005.
 - ◊ *Etude d'un coronographe à 4 quadrants au moyen de l'optique diffractive*, Seminar of the Instrumental Research Group at Observatoire de Meudon, Paris, April 2002.

PUBLICATIONS ◇ Refereed publications (submitted and published)

- *Vector Vortex Coronagraph for ground-based exoplanet imaging and characterization*, D. Mawet, E. Serabyn, K. Liewer, in preparation
- *Imaging the disk around HD32297 with a well-corrected telescope subaperture, and a phase-mask coronagraph*, D. Mawet, E. Serabyn, K. Stapelfeldt, to be submitted to ApJL.
- *Imaging faint brown dwarf companions close to bright stars with a small, well-corrected telescope aperture*, E. Serabyn, D. Mawet, E. Bloemhof, P. Haguenauer, B. Mennesson, K. Wallace and J. Hickey, accepted in ApJ 2009.
- *Optical Vectorial Vortex Coronagraphs using Liquid Crystal Polymers: theory, manufacturing and laboratory demonstration*, D. Mawet, E. Serabyn, K. Liewer, Ch. Hanot, S. McEldowney, D. Shemo, and N. O' Brien, 2009, Optics Express **17**, pp.1902-1918.
- *Super Earth Explorer: A Coronagraphic Off-Axis Space Telescope*, J. Schneider, A. Boccaletti, D. Mawet, P. Baudoz, J.-L. Beuzit, R. Doyon, M. Marley, D. Stam, G. Tinetti, W. Traub, J. Trauger, A. Aylward, J.Y.K. Cho, C.U. Keller, S. Udry, for the SEE-COAST Team, accepted in Experimental Astronomy 2009.
- *Darwin: an experimental astronomy mission to search for extrasolar planets*, Ch. S. Cockell, T. Herbst, A. Léger, O. Absil, Ch. Beichman, W. Benz, A. Brack, Br. Chazelas, A. Chelli, H. Cottin, V. Coudé Du Foresto, W. Danchi, D. Defrère, J.-W. den Herder, C. Eiroa, M. Fridlund, Th. Henning, K. Johnston, L. Kaltenegger, L. Labadie, H. Lammer, R. Launhardt, P. Lawson, O.P. Lay, R. Liseau, S.R. Martin, D. Mawet, et al., Experimental Astronomy 2008, Online First.
- *The Four Quadrant Phase Mask Coronagraph and its avatars*, 2008, D. Rouan, J. Baudrand, A. Boccaletti, P. Baudoz, D. Mawet, P. Riaud, Comptes Rendus - Physique, Vol. 8, Issue 3-4, p. 298-311.
- *Could we characterize hot Ocean-Planets with COROT, Kepler and Doppler velocimetry ?*, F. Selsis, B. Chazelas, P. Bordé, F. Bouchy, J.-M. Griessmeier, H. Lammer, C. Sotin, O. Grasset, D. Ehrenreich, C. Moutou, P. Barge, M. Deleuil, D. Mawet, D. Despois, M. Ollivier, F. Brachet, M. Decaudin, J. F. Kasting, A. Léger, 2007, Icarus 191, 453.
- *Fresnel Rhombs as Achromatic Phase Shifters for Infrared Nulling Interferometry*, D. Mawet, Ch. Hanot, C. Lenaerts, P. Riaud, D. Defrère, J. Surdej, D. Vandormael, J. Loicq, K. Fleury, J.-Y. Plesseria and S. Habraken, 2007, Optics Express 15, p. 12850.
- *Coronagraphic imaging of three weak-line T Tauri stars: evidence of planetary formation around PDS 70*, Riaud P., Mawet D., Absil O., Boccaletti A., Baudoz P., Herwats E. and Surdej J., 2006, A&A 458, 317-326.
- *The four-quadrant phase-mask coronagraph: white light laboratory results with an achromatic device*, Mawet D., Riaud P., Baudrand J., Baudoz P., Boccaletti A., and Dupuis O. and Rouan, D., 2006, A&A **448**, 801–808.
- *Annular Groove Phase Mask Coronagraph*, Mawet D., Riaud P., Absil O. and Surdej J., 2005, ApJ **633**, 1191–1200.
- *Subwavelength surface-relief gratings for stellar coronagraphy*, Mawet D., Riaud P., Baudrand J. and Surdej J., 2005, Appl. Opt. **44**, 7313–7321.
- *Use of subwavelength gratings in TIR incidence as achromatic phase shifters*, Mawet D., Lenaerts C., Riaud P., Surdej J., Habraken S. and Vandormael, D., 2005, Optics Express **13**, 8686–8691.
- *Limitations of the Pupil Replication Technique in the Presence of Instrumental Defects*, Riaud P., Mawet D. and Absil O., 2005, ApJ **628**, L81–L84.
- *A new family of planets? “Ocean-Planets”*, Léger A., Selsis F., Sotin C., Guillot T., Despois D., Mawet D., Ollivier M., Labèque A., Valette C., Brachet F., Chazelas B. and Lammer H., 2004, Icarus **169**, 499–504.